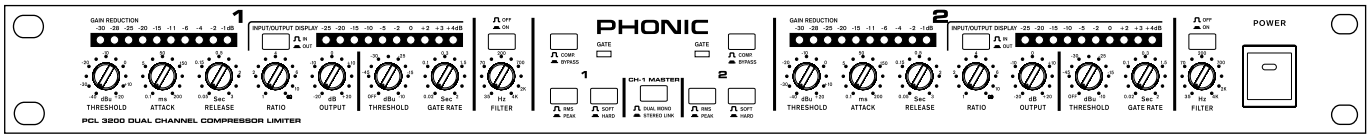
PHONIC

PCL 3200

SIGNAL PROCESSOR



PCL 3200

English

User's Manual

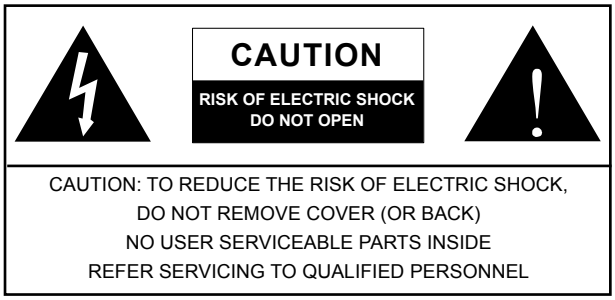
IMPORTANT SAFETY INSTRUCTIONS

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus. The MAINS plug is used as the disconnect device, the disconnect device shall remain readily operable.

Warning: the user shall not place this apparatus in the confined area during the operation so that the mains switch can be easily accessible.

1. Read these instructions before operating this apparatus.
2. Keep these instructions for future reference.
3. Heed all warnings to ensure safe operation.
4. Follow all instructions provided in this document.
5. Do not use this apparatus near water or in locations where condensation may occur.
6. Clean only with dry cloth. Do not use aerosol or liquid cleaners. Unplug this apparatus before cleaning.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

CAUTION: Use of controls or adjustments or performance of procedures other than those specified may result in hazardous radiation exposure.

PCL 3200

SIGNAL PROCESSOR

USER'S MANUAL

TABLE OF CONTENTS

FRONT PANEL DESCRIPTION.....4

GATE AREA.....5

MASTER AREA..... 5

REAR PANEL DESCRIPTION 6

CONNECTION DIAGRAM DISCUSSIONS.....7

SYSTEM BLOCK DIAGRAM.....8

SPECIFICATIONS 9

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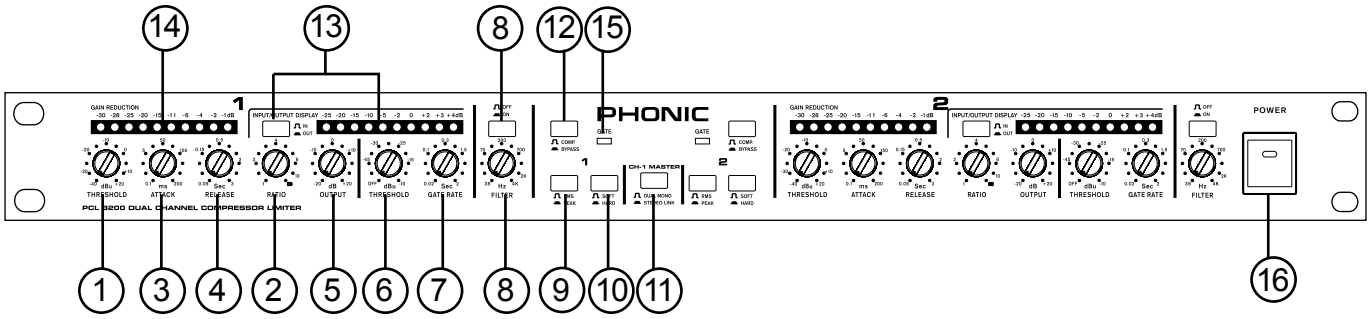
V1.1 11/24. 2005

FRONT-PANEL DESCRIPTION- (CHANNEL A and CHANNEL B are identical.)



COMPRESSOR/LIMITER AREA

Compressors and limiters are signal processors that reduce the dynamic range of the signal. It prevents signals from exceeding a given threshold level.

(1) THRESBOLD (-40 dB to +20 dB)

This control sets the level of compression to input signal and thus prevents distortion and gives good protection to your amplifier and speakers. Rotating clockwise raises the threshold, thus squeezing signals at a higher level and reducing the amount of compression or limiting; and vice versa.

(2) RATIO (1:1 to infinity:1)

The ratio of the change in output level (in dB) to the change in input level is known as the compression ratio.

When this rotary VR is set at 1:1, there is no signal compression. When it is set at 2:1, any input signal over the threshold setting is compressed to half. When it is set at ∞:1, any signal over the threshold setting will be compressed completely. FIGURE A explains the comparison of compressed signals responding to various VR settings.

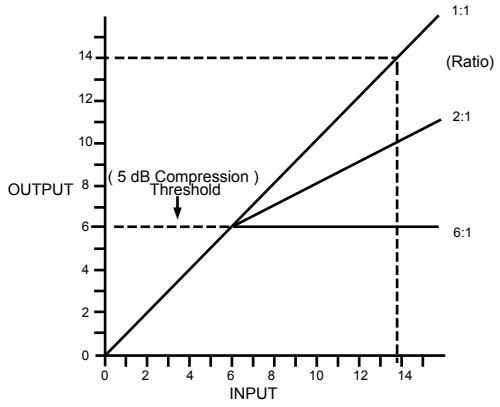


FIGURE A.

(3) ATTACK (0.1ms to 200ms)

This control works only when PEAK/RMS(#9) is set at PEAK mode. It sets the compression attack time interval between input peak signal and threshold setting.

(4) RELEASE (0.05sec to 3sec)

Contrary to the ATTACK control, this control decides the de-compress interval for a compressed signal to return to its original value. The PEAK RMS control (#9) must be in PEAK mode. This is helpful to compensate for poor mic or vocal technique.

FIGURE B explans how the ATTACK/RELEASE works.

Different time settings will create different effects.

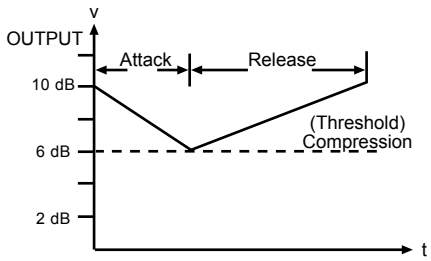


FIGURE B.

(5) OUTPUT (-20 to +20 dB)

This control adjusts the output level. For example, if you try to make a CD duplication from a cassette, it is necessary for you to accommodate the cassette's limited dynamic range.

GATE AREA

A noise gate is a signal processor that turns off or significantly attentuates the audio signal passing through it when the signal level falls below a user adjustable threshold.

(6) THRESHOLD (no gating to -10 dB)

When it is pushed off, all signals are allowed. Turning it clockwise, only signal over the threshold is allowed to limit the noise signal level. How to set a proper gate level for most applications? Turn off the GATE Threshold, turn on all instruments hooked to this unit but no input is allowed. Increase the Threshold, the red GATE LED (#15) comes on. This is helpful in removing hiss from tape, guitar amps etc.

(7) RATE (0.02sec to 2sec)

This control sets the interval of the gate time and thus creates a soft cut to noise. FIGURE C explains the signal cut responding to different RATE settings. Different settings create different signal cut effects.

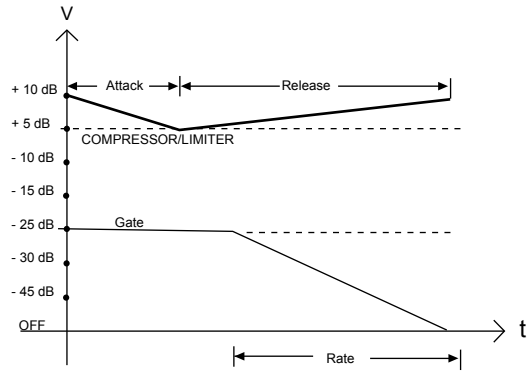


FIGURE C.

(8) (a) FILTER ON/OFF SWITCH ,
(b) FILTER SETTING (35 Hz-4K Hz)

When FILTER ON/OFF switch(#8A) is pushed down (at ON position), the FILTER SETTING CONTROL (#8B) allows passes of some signal depending its setting position. For example, if the FILTER ON/OFF switch is at "ON" position, and the filter setting control positions at 35Hz, it allows signal between 30 Hz to 40 Hz to pass thru.

MASTER AREA

(9) PEAK-RMS

In peak mode, the ATTACK/RELEASE controls in COMPRESSOR/LIMITER area decides the compression start and release interval. In RMS mode, it is pre-factory set.

(10) HARD KNEE-SOFT KNEE

In conjunction with ATTACK/RELEASE time control, the HARD KNEE creates a harsh compressed signal, while the SOFT KNEE creates a smooth compressed signal. FIGURE D thereunder illustrates signals created by HARD KNEE and SOFT KNEE and the influences of ATTACK and RELEASE time setting to the signal curve.

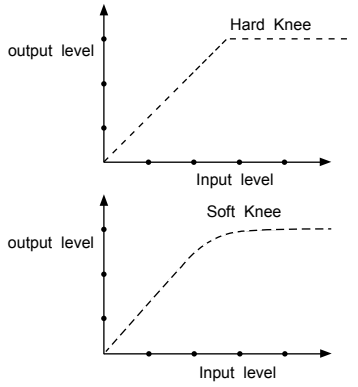


FIGURE D.

(11) STEREO LINK-DUAL LINK

At STEREO LINK, CHA controls both channels. At DUAL MONO LINK, CHA & CHB works independently.

(12) BYPASS-COMP

At BYPASS mode, the input signal sends out directly and is unaffected by the controls' settings. Input signal is equal to the output signal. At COMP mode, all input signals are affected by this machine's factory presetting.

This gives an easy and quick comparison between unprocessed and processed signals.

(13) IN/OUT LED DISPLAY (-25 to +4 dB) AND CONTROL SWITCH

When the in/out switch is at "IN" position, the LED DISPLAY indicates the INPUT level. When the switch is in "OUT" position, it indicates the OUTPUT level.

(14) GAIN REDUCTION (-30 to -1 dB)

It indicates the compressed dB quantity.

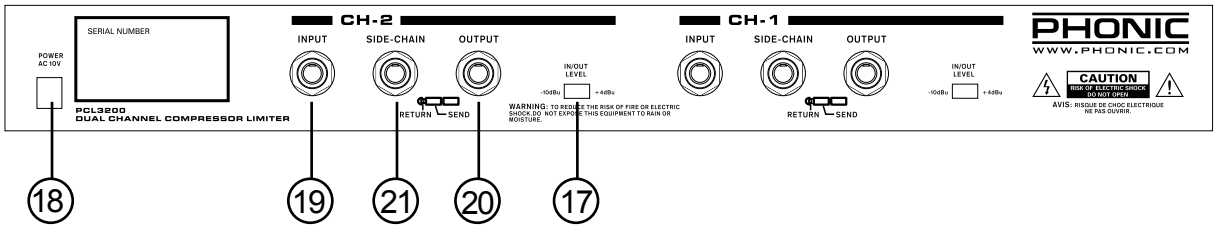
(15) GATE LED

This LED lights up when NOISE GATE is on processing and thus no signal comes in ; the LED turns off when there is signal passing through.

(16) POWER ON/OFF SWITCH

Two guesses. Push down to turn on the power.

PCL3200 REAR PANEL



REAR-PANEL DESCRIPTION-

(17) IN/OUT LEVEL (+4dB, -10dB)

It adjusts the signal level of the preamplifier to match with our PCL3200. The switch shifting changes the way the input/output meter references signals.

(18) DC JACK (POWER AC1OV)

This unit needs an AC 10V/600mA power supplied by Phonic. Use of any other AC adaptor voids the warranty.

(19) INPUT JACK

This is the input connector to take signals from any low or line level signals such as mixing console, tape recorder, or synthesizer and other unbalanced signal sources etc. to be limited, compressed or gated.

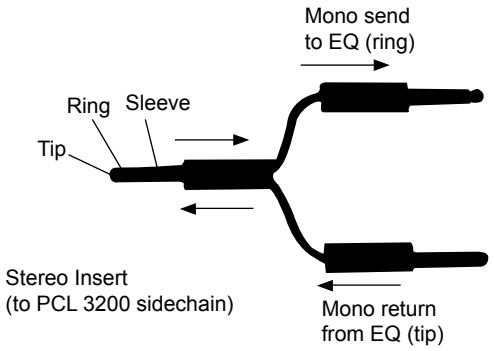
(20) OUTPUT

This provides processed output.

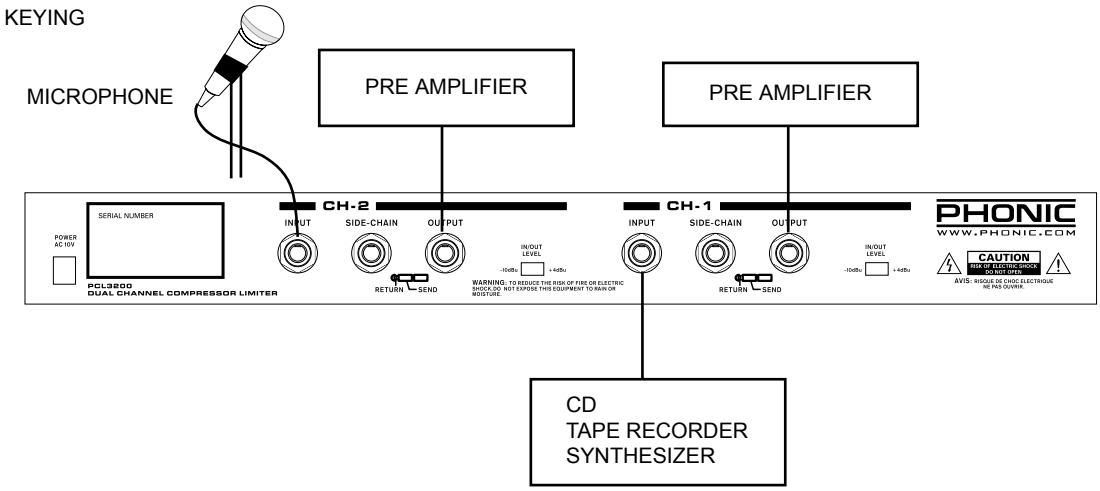
(21) SIDE CHAIN

This is a special connector and allows you to control this PCL3200 by other devices. For example, by using a send/return cable (SEE FIGURE E) you can send the signal out to another device such as an EQ to re-produce the signal and then return it back for better sound quality.

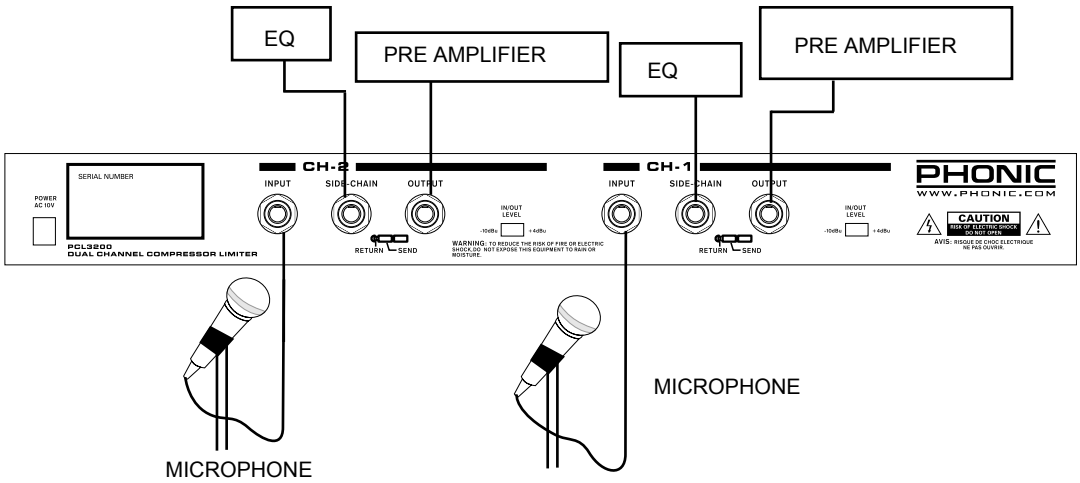
Boost the high frequency frequency , the vocal sibilance is removed by differential compression. If low frequency EQ cut is used, the compressor allows drum sounds to get through more or less unaltered, yet may clamp down on a relatively less powerful high synthesizer note.



CONNECTION DIAGRAM



DE-ESSING



CONNECTION DIAGRAM DISCUSSIONS

The Connection Diagrams (SEE FIGURE F/G) intended as examples of some of the many ways your PCL3200 can be connected.

This applies to lower the level of background music in the presence of narration or to lower the level of a rhythm guitar while a vocalist is singing.

(a) Connect the Mike to the INPUT JSVK for vocalist.

(b) The background music (from either a CD, synthesizer, turntable or cassette) is connected to CHB'S INPUT jack.

(c) A Mixing console is connected to the OUTPUT jack. Adjusting the THRESHOLD, RATIO, ATTACK, and RELEASE controls affects signal processing.

(2) DE-ESSING

LANCE"

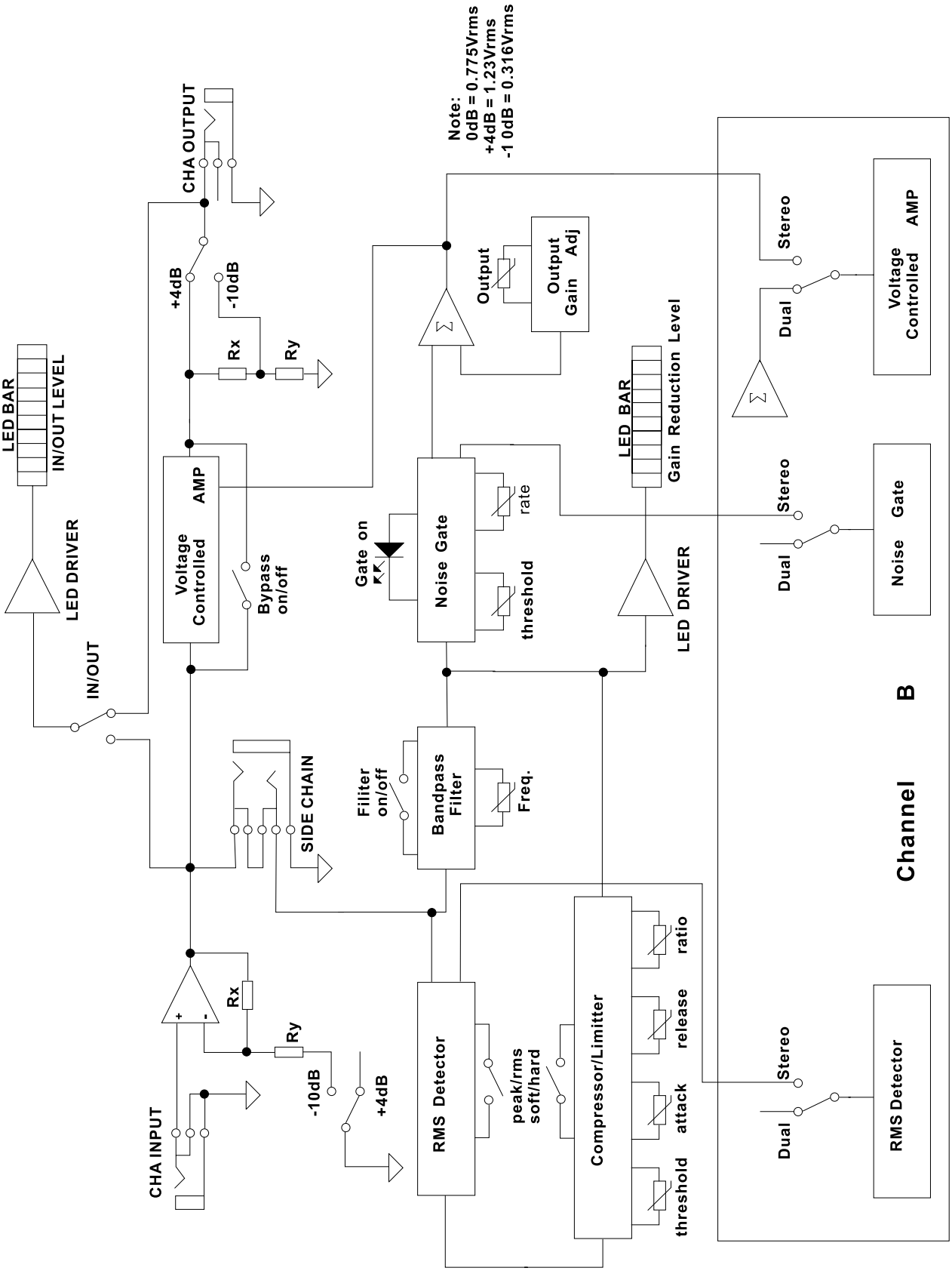
(a) Insert an EQ to the side chain jack by a SEND/RETURN cable.

(b) Connect a Microphone to the input connector.

(c) Connect a Mixing console or a tape recorder to the OUTPUT connector.

Adjusting the THRESHOLD,RATIO, ATTACK, and RELEASE controls now affects signal processing.

PCL 3200 BLOCK DIAGRAM



SPECIFICATIONS

ITEM	DATA
1. SIGNAL to NOISE RATIO:	>95 dB, "A" weighted
2. CROSSTALK:	<-80dB @+4dB @ with 10K Hz band pass filter
3. FREQUENCY RESPONSE:	10 Hz ~ 30k Hz, 0/-0.5 dB
4. DISTORTION:	<0.06% @ +4 dB (6 dB compression)
5. OUTPUT GAIN CONTROL RANGE:	-25 to +20 dB
6. COMPRESSION RATIO:	1:1 to INFTNITY:1
7 GATE RATE TIME:	20ms to 2 Second
8. IMPEDANCE:	OUTPUT: 600 ohms, unbalanced
9. INDICATOR:	10 segment Gain Reduction LED display with -30 to -1 dB Range 10 segment Input/Output LED display (selectable) with -25 dB to + 4dB Range GATE OPEN/CLOSE LEDS POWER ON/OFF LED
10. SWITCH:	Stereo/Dual Mono Link, Bypass, Peak/RMS Mode, Input/Output Monitor, Filter, Hard/Soft,Power.
11. POWER REQUIREMENT:	External 10V AC transformer
12. INPUT and OUTPUT CONNECTORS:	1/4" mono phone jacks
13. SIDE CHAIN CONNECTOR	1/4" stereo phone jacks
14. SIZE (LxWxH):	480x104.5x45mm (189.0"x41.1"x17.7")
15. WEIGHT:	N.W.: 2.0KGS

NOTE : 0 dB = 0.775VRMS
+4 dB = 1.23VRMS
-10 dB = 0.316VRMS

TO PURCHASE ADDITIONAL PHONIC GEAR AND ACCESSORIES

To purchase Phonic gear and optional accessories, contact any authorized Phonic distributor. For a list of Phonic distributors please visit our website at www.phonic.com and click on Get Gear. You may also contact Phonic directly and we will assist you in locating a distributor near you.

SERVICE AND REPAIR

Phonic has over 100 service centers worldwide. For replacement parts, service and repairs please contact the Phonic distributor in your country. Phonic does not release service manuals to consumers, and advice users to not attempt any self repairs, as doing so voids all warranties. You can locate a dealer near you at www.phonic.com.

WARRANTY INFORMATION

Phonic stands behind every product we make with a no-hassles warranty. Warranty coverage may be extended, depending on your region. Phonic Corporation warrants this product for a minimum of one year from the original date of purchase against defects in material and workmanship under use as instructed by the user's manual. Phonic, at its option, shall repair or replace the defective unit covered by this warranty. Please retain the dated sales receipt as evidence of the date of purchase. You will need it for any warranty service. No returns or repairs will be accepted without a proper RMA number (return merchandise authorization). In order to keep this warranty in effect, the product must have been handled and used as prescribed in the instructions accompanying this warranty. Any tempering of the product or attempts of self repair voids all warranty. This warranty does not cover any damage due to accident, misuse, abuse, or negligence. This warranty is valid only if the product was purchased new from an authorized Phonic dealer/distributor. For complete warranty policy information, please visit http://www.phonic.com.

CUSTOMER SERVICE AND TECHNICAL SUPPORT

We encourage you to visit our online help at http://www.phonic.com/help/. There you can find answers to frequently asked questions, tech tips, driver downloads, returns instruction and other helpful information. We make every effort to answer your questions within one business day.

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